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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/687,269

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John Gavin MacDonald

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EXAMINER

ALSTRUM ACEVEDO, JAMES HENRY

ART UNIT

PAPER NUMBER

1616

MAIL DATE

DELIVERY MODE

03/04/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/687,269	Applicant(s) MACDONALD ET AL.	
	Examiner JAMES H. ALSTRUM ACEVEDO	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-10,12,14,17,20-26,28,29 and 31-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-10,12,14,17,20-26,28,29 and 31-44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claims 1, 4-10, 12, 14, 17, 20-26, 28-29, and 31-44 are pending. Applicants previously cancelled claims 2-3, 11, 13, 15-16, 18-19, 27, and 30. Applicants amended claims 1, 10, 17, 35-36, 38, and 42-44. Receipt and consideration of Applicants' amended claim set, terminal disclaimer, and arguments/remarks submitted on October 21, 2009 are acknowledged. All rejections not explicitly maintained in the instant office action have been withdrawn per Applicants' claim amendments and/or persuasive arguments.

Terminal Disclaimer(s)

The terminal disclaimer filed on October 21, 2009 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of copending Application No. 12/134,547 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Applicant Claims
2. Determining the scope and contents of the prior art.
3. Ascertaining the differences between the prior art and the claims at issue, and resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4-10, 12, 14, 17, 20-26, 28-29, and 31-44 remain rejected under 35 U.S.C. 103(a) as being unpatentable over in view of Persson (WO 00/76558) in view of Tratnyek (U.S. Patent No. 4,407,960) (of record), as evidenced by the June 1995 BOC Gases MSDS for ethylene oxide (of record), Horan (U.S. Patent No. 6,149,952) (of record), Baker, M. E. J. and Ramaier, N. (*Analyst*, 1994, 119(5), abstract), Patel (US 2003/0211618), Karapasha (WO 91/12030) (IDS), Takaoka et al. (US 2002/0006425), and Stoddart (EP 1214878) (IDS).

Applicant Claims

Applicants claim (1) an article for controlling odor comprising (a) a substrate including an odor controlling agent comprising nanoparticles and at least one visual indicating agent applied in differing concentrations in two or more zones that is selected from a group including 4,4-bis(dimethylamino)-benzhydrol (i.e. Michler's hydrol); and (2) a method of visually indicating when an article for controlling odor is saturated.

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Determination of the Scope and Content of the Prior Art (MPEP §2141.01)

Persson teaches **absorbent articles (e.g. sanitary napkins, tampons, diapers, etc.)** containing an additive agent and **a visual indicator that changes color upon changes in its local environment, such as changes in pH, moisture content, or temperature (e.g. methyl red, thymol, blue, bromothymol blue, etc.)** (title; abstract; pg. 3, lines 5-15). Odor-inhibiting additives used in the prior art in absorbent articles include zeolites and silica (pg. 1, lines 10-14).

Tratnyek teaches **clay-containing substrates, such as a coated boxboard, a coated paper cover stock, and a shiny coated paper stock, with ~0.1% w/w or 0.89% w/w of Michler's hydrol (i.e. 4,4'-bis(dimethylamino)-benzhydrol)** (Table II: Col. 12, lines 22-38). Clay is an odor absorbing material. In some embodiments, Tratanyek teaches a composition comprising Michler's hydrol, **silica**, and a polymeric binder (e.g. ethyl cellulose or styrene-maleic anhydride resin). (Id.) Tratanyek's system was developed as a visual indicator system in sterilization processes utilizing ethylene oxide (Title; Abstract; Table 1). Tratanyek teaches that the system may be applied to any substrate, such as **silica or cellulose blotters** (col. 4, line 68 through col. 5, line 8). The inclusion of an acid component, such as, 4,4-bis(4-hydroxyphenyl)pentanoic acid enhances the observed color change (col. 5, lines 10-15). Tratanyek teaches the various color changes of the indicator system comprising Michler's hydrol that upon observation indicate saturation of the article with ethylene oxide (See Table 1, items 3-5).

Ethylene oxide is a slightly sweet-smelling gas (i.e. an odor), as evidenced by BOC Gases MSDS for ethylene oxide (prepared June 1, 1995) (see page 5 of 7, section 9: "Physical and Chemical Properties").

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Karapasha teaches various odor-controlling materials, including **activated carbon, silica, molecular sieves, copper salts, copper ions, zinc chloride, clays, and activated alumina** (pg. 3, lines 25-37; pg. 4, lines 4-6; pg. 27, lines 4-14; claim 3).

Takaoka identifies **colloidal nanoparticulate silica** that is commercially available (e.g. SNOWTEX-AK) and uses this material in a method of **absorbing a malodorous compound (acetaldehyde)** ([0104]-[0105]; [0244]-[0260]).

Stoddart teaches compositions and articles for control of malodor comprising metal complexes, comprising divalent metal ions, such as **Cu²⁺, Zn²⁺, Ni²⁺, Co²⁺, and Fe²⁺**.

Horan teaches a method for determining deleterious bacterial growth in packaged food, wherein a gas, such as CO, CO₂, hydrogen sulfide, sulfur dioxide, ammonia results in a color change in response to the presence of gases due to indicators dispersed throughout a polymeric matrix (Title; abstract; col. 1, lines 49-61). **Alpha-naphtholbenzein is an exemplary indicator disclosed by Horan for the detection of gases evolved by bacteria, such as ammonia, hydrogen sulfide, or sulfur dioxide** (Horan: col. 7, lines 48-56). Horan teaches that the chemical response of the indicator is typically concentration dependent (col. 7, lines 31-32).

Baker teaches that **pararosaniline is an optical (i.e. visual) colorimetric indicator of formaldehyde** (an odorous compound) (abstract).

Patel teaches that **naphthochrome green is a known colorimetric visual indicator** ([0064], [0128]-[0130]).

Ascertainment of the Difference Between Scope the Prior Art and the Claims
(MPEP §2141.012)

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Persson lacks the teaching of an article comprising an odor absorbing agent comprising nanoparticles, metal ions, and the specific visual indicators recited in Applicants' claims. These deficiencies are cured by the combined teachings of the cited prior art.

***Finding of Prima Facie Obviousness Rationale and Motivation
(MPEP §2142-2143)***

It would have been prima facie obvious to modify the teachings of Persson to incorporate an odor absorbing material comprising nanoparticles, because the prior art teaches that silica is an odor absorbing material that is commercially available in the form of nanoparticles. An ordinary skilled artisan would have been motivated to include nanoparticulate silica, because Persson's articles are designed to absorb bodily fluids that are characterized by malodor. An ordinary skilled artisan would have had a reasonable expectation of including known odor-absorbing in Persson's articles, because the inclusion of odor-absorbers in absorbent articles is well known in the art. Regarding the inclusion of metal ions, the prior art recognizes the metal ions (e.g. copper ions) are odor absorbers. An ordinary skilled artisan would have been motivated to incorporate other known odor absorbing materials with nanoparticulate silica, because said combination of odor absorbing materials would be expected to exhibit at least an additive odor-absorbing effect. Using odor-absorbing materials to absorb odors provides the ordinary skilled artisan with a reasonable expectation of success.

Regarding the visual indicator, Tratnyek and Horan teach well known visual indicators that are sensitive to changes in pH and the indicator's local environment. It would have been prima facie obvious to the ordinary skilled artisan to utilize a known visual indicator in a manner consistent with its known utility. Thus, it would have been prima facie obvious to utilize

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Michler's hydrol (Tratnyek) or alpha-naphtholbenzein as a visual indicator, and an ordinary skilled artisan would have had a reasonable expectation of using these compounds as visual indicators, because these compounds are known visual indicators. Regarding reference to the visual indicator" being applied to two or more zones in differing concentrations," it would have been well within the capability of the ordinary skilled artisan to vary the concentration of visual indicators in different places on the article to ensure that the color change would be clearly visible to the user of the article. Furthermore, common sense logic would lead the ordinary skilled artisan to use differing concentrations to track the remaining use-life of a particular product. Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because the combined teachings of the prior art is fairly suggestive of the claimed invention.

Response to Arguments

Applicant's arguments filed October 21, 2009 have been fully considered but they are not persuasive. Applicants traverse the instant rejection by arguing that (1) the "sheer number of references cited" is evidence that the claims are not *prima facie* obvious; (2) none of the cited references render obvious the presence of a visual indicator in differing concentrations in two or more zones; and (3) attacking the references individually and identifying why a particular individual reference alone does not render the rejected claims obvious.

In response to applicant's argument (1) that the examiner has combined an excessive number of references, reliance on a large number of references in a rejection does not, without

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more, weigh against the obviousness of the claimed invention. See *In re Gorman*, 933 F.2d 982, 18 USPQ2d 1885 (Fed. Cir. 1991).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding (2), it would have been well within the capability of the ordinary skilled artisan to vary the concentration of visual indicators in different places on the article to ensure that the color change would be clearly visible to the user of the article. Furthermore, common sense logic would lead the ordinary skilled artisan to use differing concentrations to track the remaining use-life of a particular product. Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because the combined teachings of the prior art is fairly suggestive of the claimed invention.

Conclusion

Claims 1, 4-10, 12, 14, 17, 20-26, 28-29, and 31-44 are rejected. No claims are allowed.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H. Alstrum-Acevedo whose telephone number is (571) 272-5548. The examiner is on a flexible schedule, but can normally be reached on M-F ~10am~5:30 pm, and Saturdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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